



LA Creel/MRIP Certification Review

Harry Blanchet | LA Creel Certification Review | Feb. 2, 2022

Overview

- **NOAA summary document of Dec. 2021, “LA Certification Peer Review Recommendations” did not capture several points addressed in the LDWF response to the peer review.**
- **After a brief summary of the survey design, these points are summarized here for ease of reference.**
- **Not sure if it is intended to be reviewed here, but listed so we can discuss if needed**
- **NOTE: Existing MRIP / LA Creel calibration for federally managed species is estimated separately than that for state managed inshore species.**



LA Creel Survey

General Methodology

Recreational landings are estimated separately for the private recreational and for-hire sectors

- An access-point survey to collect harvest rate
- A phone/email survey to estimate total effort

Separate biological sampling from LA Creel recreational landing survey



LA Creel Access Point Survey

SITE FRAME - ACTIVITY

Private Angler Inshore Weekday & Weekend
Private Angler Offshore Weekday & Weekend
Charter Inshore Weekday & Weekend
Charter Offshore Weekday & Weekend

WEEKLY SITE ASSIGNMENTS

(Site Selection Based on Proportional Probability)

BASIN

Pontchartrain Basin
Barataria Basin
Terrebonne/Timbalier Basin
Vermilion/Teche Basin
Calcasieu/Sabine Basin
Offshore

Random Selection of Shift (AM/PM)*

SITE ASSIGNMENTS DISTRIBUTED TO
CSA'S



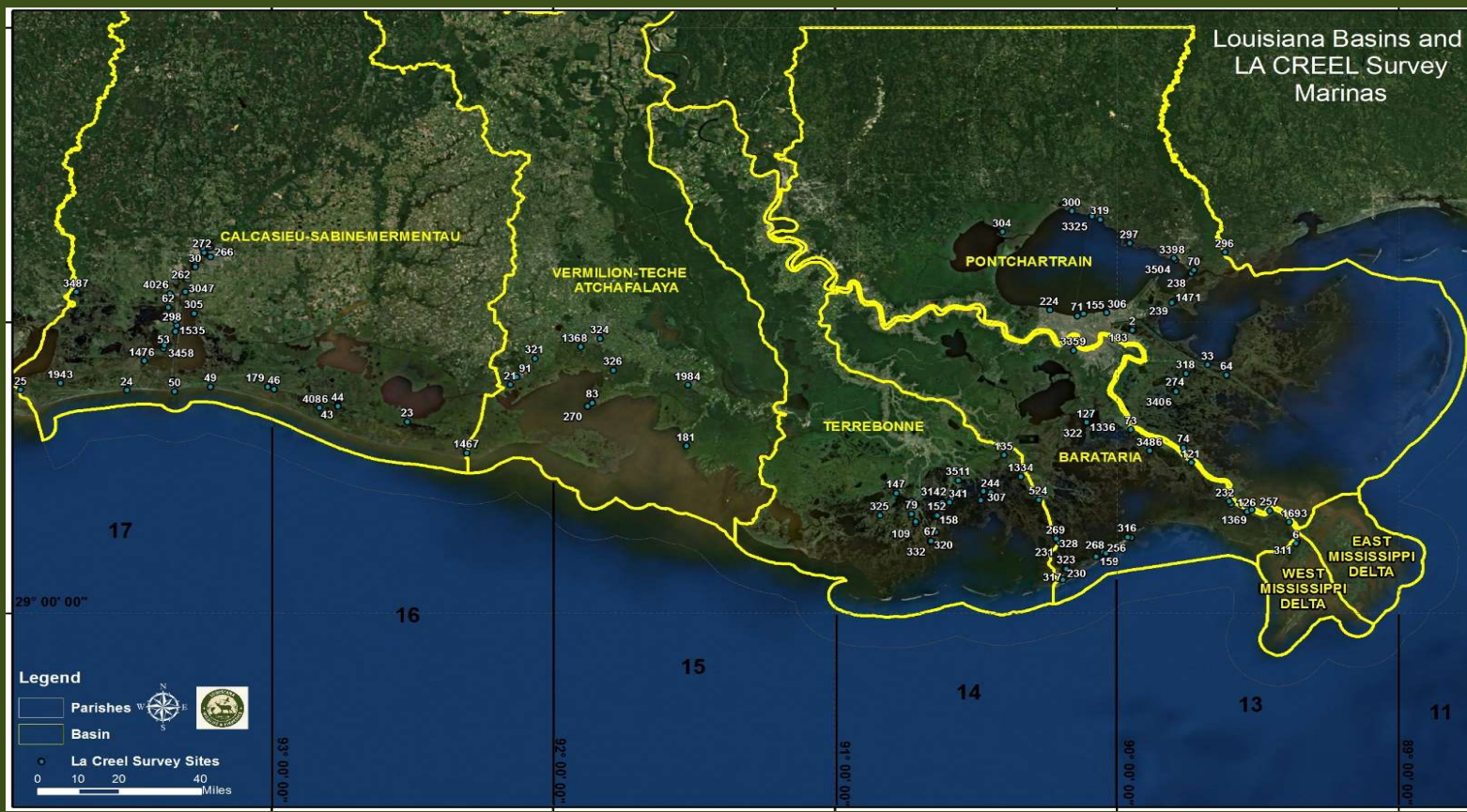
LA Creel Access Point Survey

BASIN	WEEKLY ASSIGNMENT DISTRIBUTION	
	Weekdays	Weekends
Lake Pontchartrain	2	4
Upper Barataria-Mississippi River	2	2
Lower Barataria-Mississippi River	2	4
Terrebonne-Timbalier	2	3
Vermillion-Teche-Mermentau	2	2
Sabine-Calcasieu	2	4



Visualization of the Basins

- Map below shows each LA CREEL site located within each of the major basins in Louisiana.
- For purposes of LA CREEL the Mississippi River Delta Basin is lumped together with the Barataria basin.
- These basins constitute the domains for our estimates, for both dockside and telephone surveys.



Key Features of Access Point Survey

- Inshore/Offshore site stratification
- Separate biological sampling program



Key Features of Effort Survey

- Real-time saltwater license frame
- Recreational offshore landing permit (ROLP)
- Telephone and email surveys



LA Creel Effort Survey

PRIVATE ANGLER FRAME (Weekly)

(Random Draw of Licensed Anglers)

400 – ROLP*

1,200 - NON-ROLP

300 - SW Anglers North Region

300 - SW Anglers Southeast Region

300 - SW Anglers Southwest Region

300 - SW Out-Of-State

CHARTER FRAME

(Weekly)

(Random Draw of Licensed Charter
Captains)

30% - ROLP**

10% - NON-ROLP

PHONE/EMAIL SURVEY

(Contracted to SCPDC)

PHONE/EMAIL SURVEY

(Collected by CSA Personnel)

- * 400 Private Angler ROLP adjusts to 800 during Red Snapper EEZ Season
- ** 30% Charter ROLP increases to 100% during Red Snapper EEZ Season



Real-time Saltwater License and ROLP Sampling Frame (Phone/Email Effort Survey)

- Provides weekly list of eligible anglers capturing spikes in license sales including trip licenses
- Provides separate sample frames for two different groups of anglers who have been shown to have differing avidities and catch rates
- Provides high level of valid contact information including email allowing a required minimum 50% contact rate for effort surveys
- Allows the survey to more efficiently target offshore effort



LA Creel Landing Estimate Calculation

ACCESS POINT SURVEY

(Catch/Angler/Species)

CPUE BY BASIN (ROLP/Non-ROLP)

Private Angler Inshore
Private Angler Offshore
Charter Inshore
Charter Offshore

EFFORT – PHONE/EMAIL SURVEY

(Angler Trips)

ANGLER TRIPS BY BASIN

Resident SW Angler North
Resident SW Angler Southeast
Resident SW Angler Southwest
Out-Of-State
ROLP

OUT-OF-FRAME PROPORTION

LANDING ESTIMATE BY BASIN

Private Angler Inshore
Private Angler Offshore
Charter Inshore
Charter Offshore

WEEKLY ADJUSTED LANDING ESTIMATE



Timeline of Estimates

- Effort Survey for the previous Week
- Monday (Week 1) – List of Random Private Anglers sent to SCPDC and Charter Captain List sent to Coastal Study Areas for effort survey of previous week (Week 0)
- During Week 1 Access Point Survey Data is being Quality Controlled and Finalized for Week 0.
- Monday Afternoon (Week 1) – Effort E-mails sent to Anglers and Captains.
- Wednesday through Weekend (Week 1) – Effort phone calls conducted if E-mail survey not completed.



Timeline of Estimates (con't.)

- Tuesday (Week 2) – Effort phone call and e-mail data is received at LDWF from SCPDC.
- Tuesday - Thursday (Week 2) – Further QA/QC of dockside access point and effort data occurs. Estimation programs are run.
- Thursday (Week 2) Estimate is generated for Week 0 fishing.
- Weekly estimates are provided but are for the fishing week from 2 weeks prior.
- In time sensitive situations the timeline does have some flexibility.

Example

- A red snapper landed during the week of May 29 through June 4 was available in our estimates produced on June 15.



Summary

- The LA Creel survey is based on a complemented survey design, where an on-site access-point survey is combined with off-site telephone surveys in order to calculate total landings estimates for fish species across different recreational fishing activities.
- Access point survey is primarily used to estimate harvest rates (harvest per angler trip or harvest per charter trip).
- Telephone survey is primarily used to estimate total effort (total number of angler or charter trips).
- Total landings estimates for a certain period of time are simply the product of the harvest rate and total effort values.
- 10 day turn around that creates weekly basin level estimates.



Peer Reviewer Recommendations for LA Creel

Recommendation
1. Evaluate potential sources of non-response bias due to differential response rates by stratum.
2. Investigate potential for bias in the use of quota samples (whether a survey that spends more effort converting recalcitrant respondents leads to different results than the current approach).
3. Continue to monitor the implementation of coverage adjustments at the species, activity or area level to make sure they are not too large and don't cause instability in the estimates.
4. Examine the size of the undercoverage of private access sites and after sunset anglers to help judge the effect of the implicit assumption that catch is the same for all.
5. Examine the reliability of self-reported data (via postcard method) and how they compare with observed catch.



Peer Reviewer Recommendations for LA Creel

Recommendation
6. Conduct periodic validation studies on the license ownership question to evaluate the performance of the coverage adjustment for unlicensed anglers.
7. Investigate whether anglers with bad contact information have different angling behavior from the remaining license holders.
8. Investigating the size of resulting differences [between LA Creel telephone survey-based effort estimates and FES mail survey-based effort estimates] and possibly developing a calibration method is warranted.
9. Adjust sample sizes to be more nearly proportional to either the stratum size or the stratum angler activity.



Peer Reviewer Recommendations for LA Creel

1. Evaluate potential sources of non-response bias due to differential response rates by stratum.

LDWF Response

1. Future analysis could characterize potential sources of non-response bias by stratum, but each stratum is estimated separately, then summed, which should appropriately adjust for differential response rates by stratum. More detail would be needed to really get into the issues alluded to.



Peer Reviewer Recommendations for LA Creel

2. Investigating potential for bias in the use of quota samples (whether a survey that spends more effort converting recalcitrant respondents leads to different results than the current approach)

LDWF Response

2. Response rate for effort survey remains at 50% of selected license / permit holders per week. No evidence at this time of lower-avidity anglers responding later in the survey period. (see tables 6 and 7 of response to reviewers' comments)



Peer Reviewer Recommendations for LA Creel

3. Continue to monitor the implementation of coverage adjustments at the species, activity or area level to make sure they are not too large and don't cause instability in the estimates.

LDWF Response

3. We agree with the concern. The issue was brought up (p. 2 of peer review report) in the context of using small "sample sizes for the compliance rate estimates for these small domains".



Peer Reviewer Recommendations for LA Creel

4. **Examine the size of the undercoverage of private access sites and after sunset anglers to help to judge the effect of the implicit assumption that catch is the same for all.**

LDWF Response

4. Based on responses to the effort questionnaire:
 - ~3/4 of surveyed private angler trips return to publicly accessible sites,
 - ~95% of anglers complete their trip / return to dock during surveyed periods.
 - ~ 2/3 of charter trips return to publicly accessible sites.
 - Information on return time of charter trips derived from angler effort survey, NOT charter calls.



Peer Reviewer Recommendations for LA Creel

5. Examine the reliability of self-reported data (via postcard method) and how they compare with observed catch.

LDWF Response

5. Quick review. Limited data, but discrepancies exist (as expected) from observed harvest. A very small portion of total reported catch sampled.

Most of the reports are from shore mode fishing.

Post Card Received	SampleYear							
Activity	2014	2015	2016	2017	2018	2019	2020	2021
1: Pr Inshore	58	12	9	10	14	11	3	5
2: Shore	327	58	58	42	45	35	31	23
3: Pr Offshore			1					1
4: Charter					1			
Grand Total	385	70	68	52	60	46	34	29
% Returned	16%	15%	16%	13%	14%	16%	12%	13%



Peer Reviewer Recommendations for LA Creel

6. Conduct periodic validation studies on the license ownership question to evaluate the performance of the coverage adjustment for unlicensed anglers.²

²From the certification peer review: “This should take the form of a randomized experiment embedded into the access point data collection process, where some anglers are asked to produce their license (or otherwise prove they own one) and others self-report. If these discrepancies are non-negligible, a calibrated license ownership rate should be used in the license adjustment factor.”

LDWF Response

6. LA conducted a study in 2015, results of which were summarized in their response to reviews (Tables 1, 12 and 13 of response).
- Discussions with Enforcement Division indicate that they find relatively few violations of license regulations. Results from survey within LA Creel may have suffered from voluntary nature of the survey (e.g. anglers in a rush coded as non-compliant)
 - OST has a study planned for 2022-2023 looking at angler sensitivity to this question.



Peer Reviewer Recommendations for LA Creel

7. Investigate whether anglers with bad contact information have different angling behavior from the remaining license holders.

LDWF Response

7. LA Creel does not obtain specific information on contact from the dockside survey, so not sure how this could be quantified.



Peer Reviewer Recommendations for LA Creel

8. Investigating the size of resulting differences [between LA Creel telephone survey-based effort estimates and FES mail survey-based effort estimates] and possibly developing a calibration method is warranted.

LDWF Response

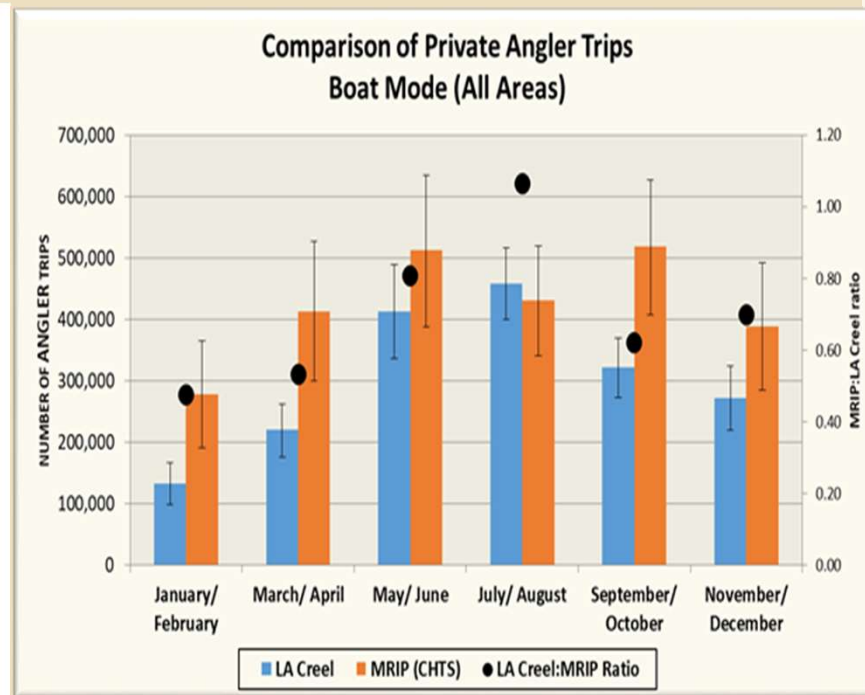
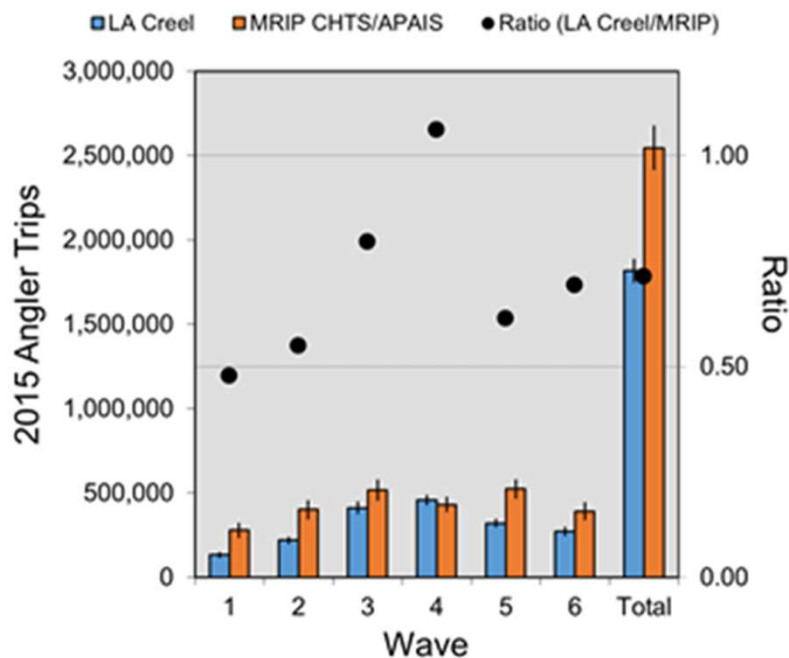
8. We agree.



Peer Reviewer Recommendations for LA Creel

8. Investigating the size of resulting differences [between LA Creel telephone survey-based effort estimates and FES mail survey-based effort estimates] and possibly developing a calibration method is warranted.

- 2015 data - Wave 5 & 6 in MRIP (CHTS) are near summer effort levels – LA Creel effort estimates show more typical seasonal declines, as anglers shift to other fall pursuits (hunting, spectator sports, family activities).



Peer Reviewer Recommendations for LA Creel

9. **Adjust sample sizes to be more nearly proportional to either the stratum size or the stratum angler activity.**

LDWF Response

9. Considered, not implemented. Rationale included in response to review. Enhanced sampling is needed to get good resolution on strata with lower participation (e.g. ROLP, out-of-state) or effort (western LA basins) that are important for state management purposes. We accept the reduced precision on the largest strata in order to get better precision on these less-common strata.
 - Current approach also enhances precision with which harvest of Federally managed species can be estimated by increasing the fraction of that stratum sampled.



Possible sources of non-sampling error mentioned in certification peer review

1. Angler non-response
2. Early respondent bias due to the use of quota samples
3. Undercoverage of unlicensed fishing
4. Undercoverage of private access anglers
5. Undercoverage of after-sunset anglers



Possible sources of non-sampling error mentioned in certification peer review

1. Angler non-response

- LA Creel is a voluntary program for anglers to participate in. We have no enforcement authority for anglers who refuse to cooperate with the program. Some avoidance is noted, both from anglers who have been repeatedly interviewed and from anglers who are not recognized by the surveyor.
- Missed interviews are documented, and run in the 10-15% range annually.
- Effort survey continues to have high response rate weekly.



Possible sources of non-sampling error mentioned in certification peer review

2. Early respondent bias due to the use of quota samples

- No bias identified in review of information (provided in response to peer review)



Phone Calls (% By Day Contacted)					
Day Of Week	Year				Grand Total
	2014	2015	2016	2017	
MONDAY	15%	20%	18%	21%	18%
TUESDAY	21%	20%	28%	27%	24%
WEDNESDAY	28%	33%	29%	29%	30%
THURSDAY	22%	20%	18%	19%	20%
FRIDAY	13%	6%	7%	4%	8%
SATURDAY	2%	0%	0%	0%	1%

Phone Calls (% Reported Positive Trips)					
Day Of Week	Year				Grand Total
	2014	2015	2016	2017	
MONDAY	7%	6%	5%	5%	5%
TUESDAY	5%	6%	7%	10%	7%
WEDNESDAY	9%	9%	8%	11%	9%
THURSDAY	8%	8%	7%	9%	8%
FRIDAY	7%	8%	7%	9%	7%
SATURDAY	8%	13%	0%	0%	8%

Possible sources of non-sampling error mentioned in certification peer review

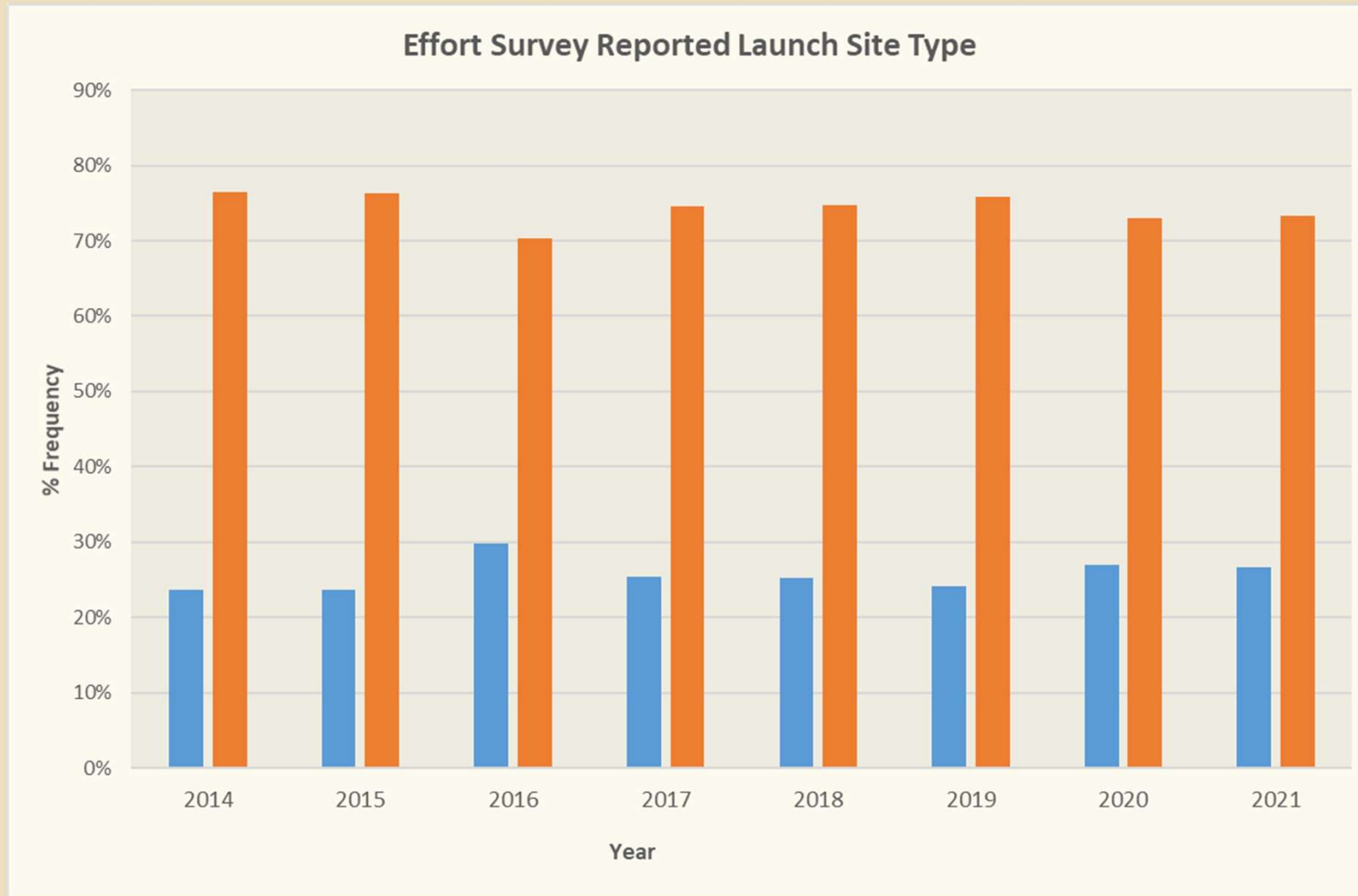
3. Undercoverage of unlicensed fishing

- Avoidance of surveyors does occur, is documented as part of the “missed angler” component of the dockside survey. We have not attempted to quantify this beyond noting its existence. However, we see no reason to believe that the catch rates would be any different than that for licensed anglers from the same site.
- Some component of unlicensed fishing does get captured in the dockside survey, and is used as an expansion factor to obtain total landings and catch.
 - 2015-2021, overall 8.74% nonlicensed intercepted (annual range 7.9-9.7%).



Possible sources of non-sampling error mentioned in certification peer review

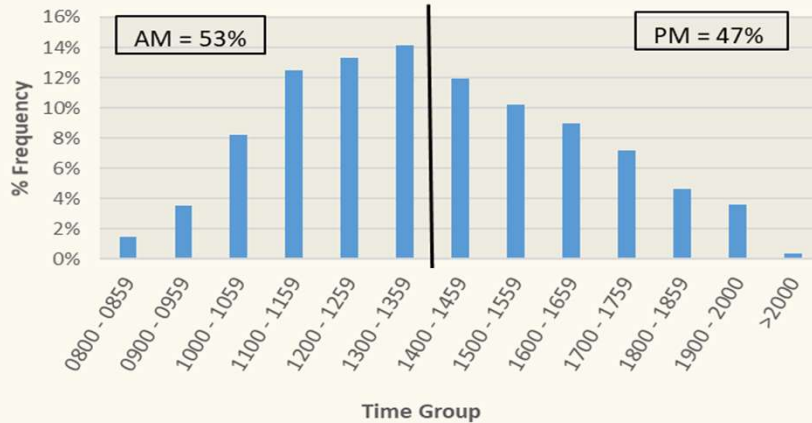
4. Undercoverage of private access anglers



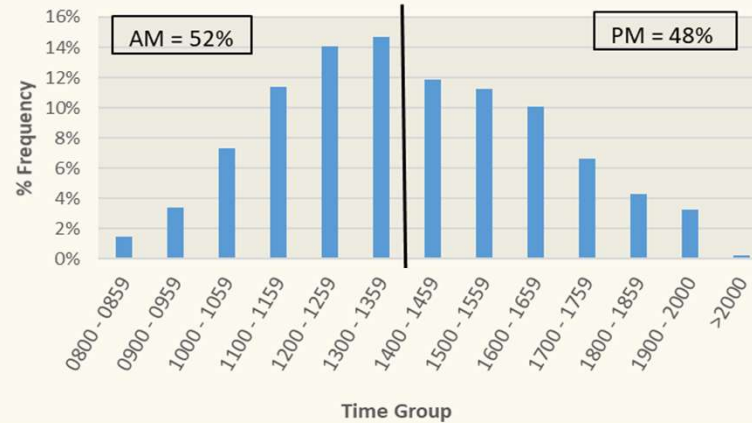
Possible sources of non-sampling error mentioned in certification peer review

5. Undercoverage of after-sunset anglers (PR Inshore)

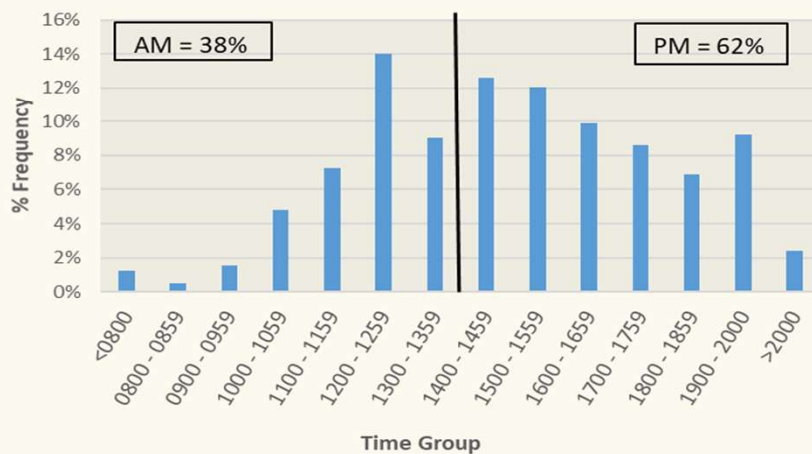
2019 Dockside Survey Interview Times
(Private Mode - Inshore)



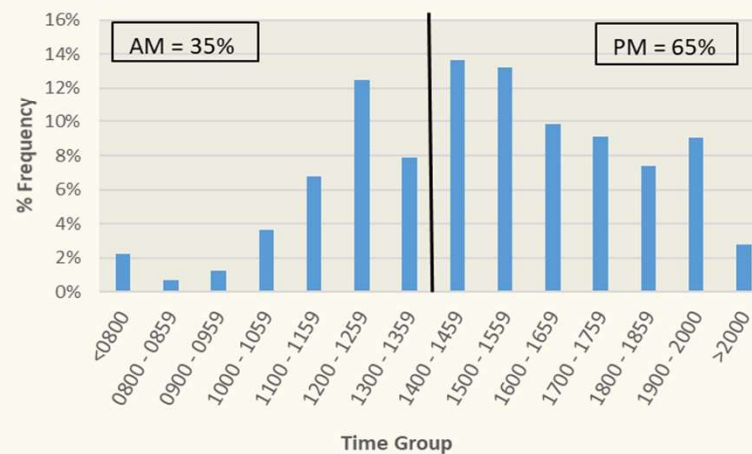
2021 Dockside Survey Interview Times
(Private Mode - Inshore)



2019 Effort Survey Reported Landing Times
(Private Mode - Inshore)

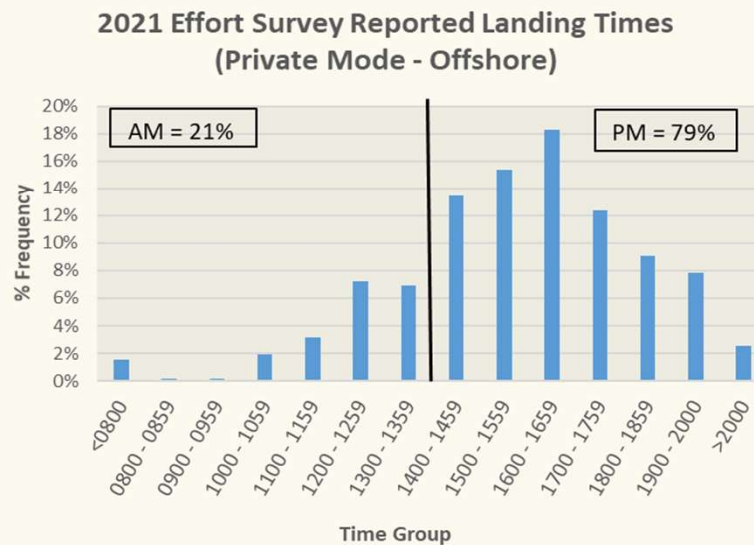
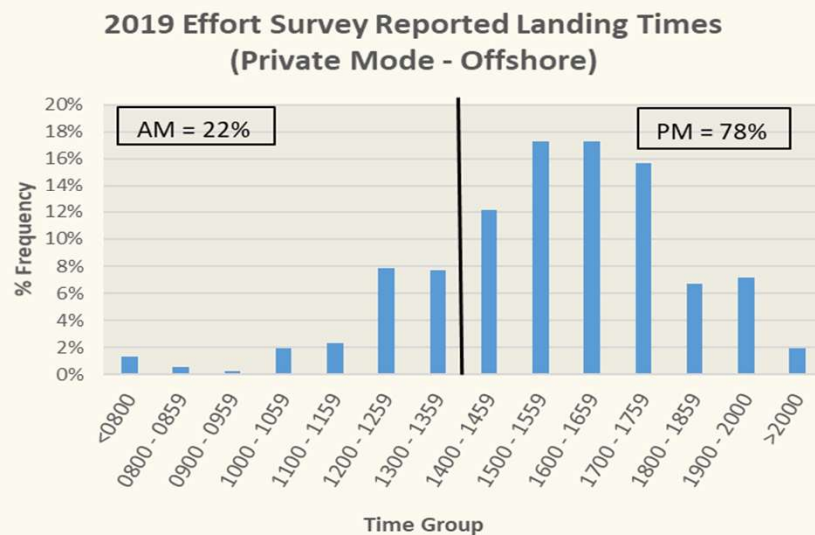
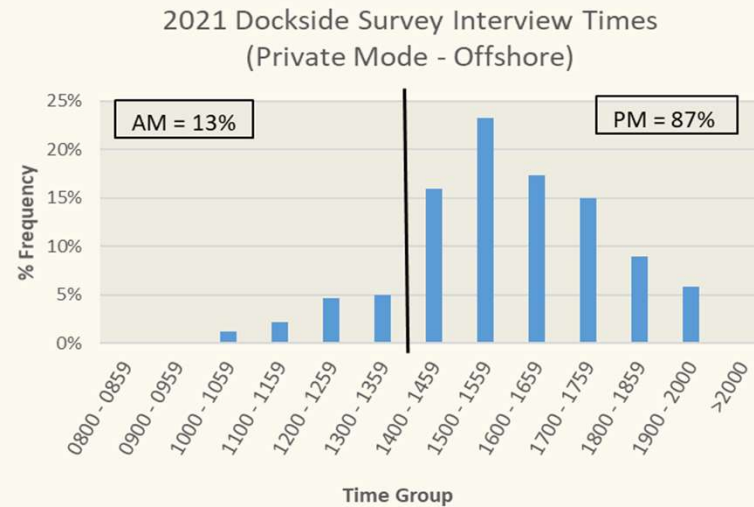
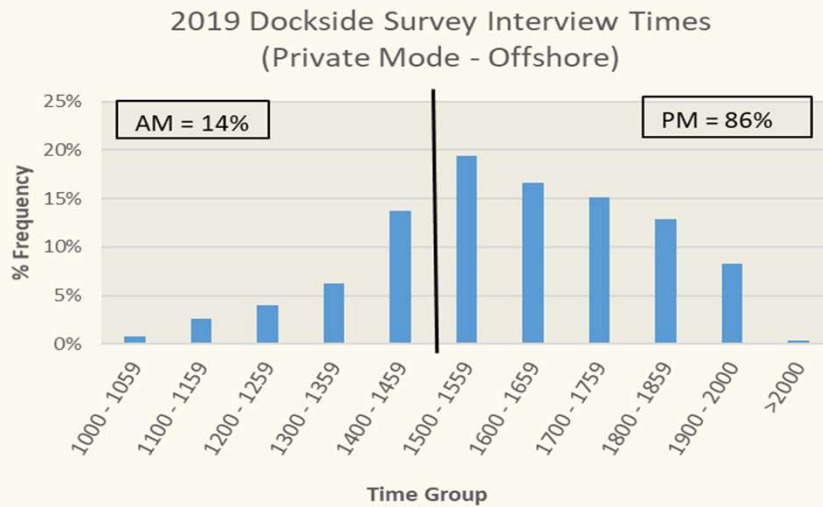


2021 Effort Survey Reported Landing Times
(Private Mode - Inshore)



Possible sources of non-sampling error mentioned in certification peer review

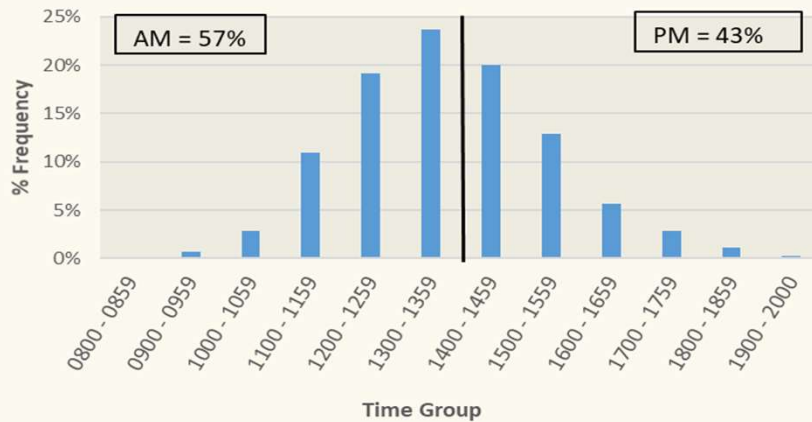
5. Undercoverage of after-sunset anglers (PR Offshore)



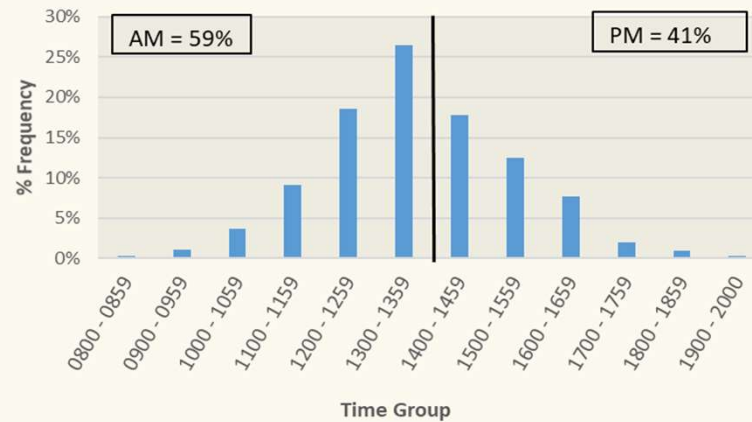
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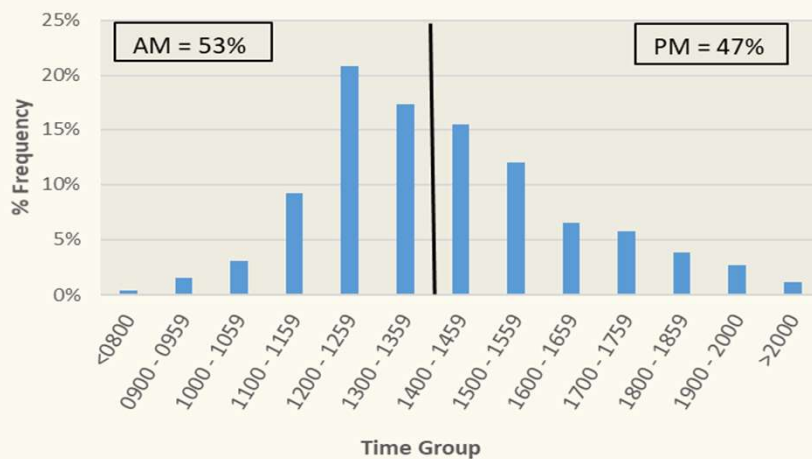
2019 Dockside Survey Interview Times
(Charter Mode - Inshore)



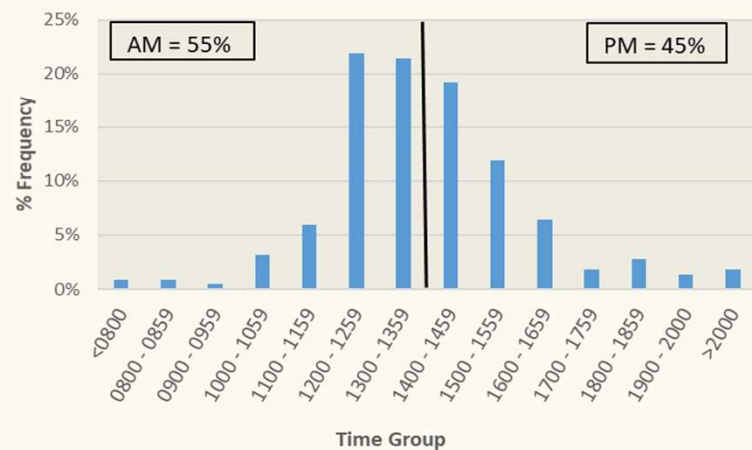
2021 Dockside Survey Interview Times
(Charter Mode - Inshore)



2019 Effort Survey Reported Landing Times
(Charter Mode - Inshore)



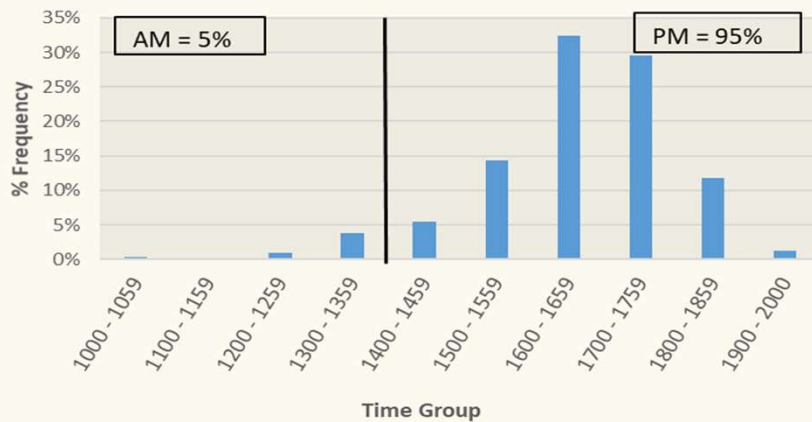
2021 Effort Survey Reported Landing Times
(Charter Mode - Inshore)



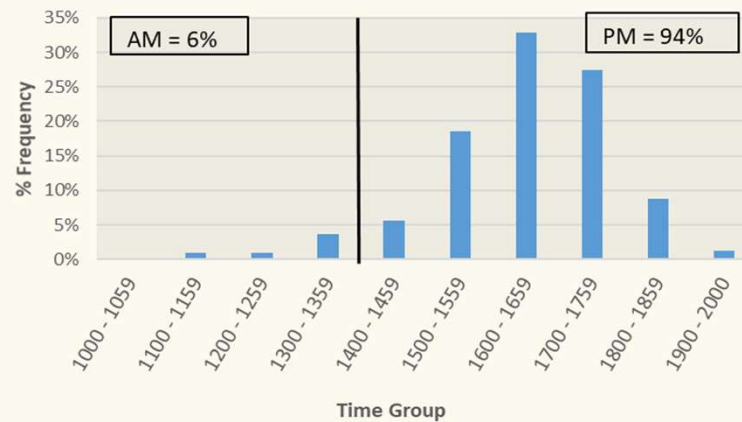
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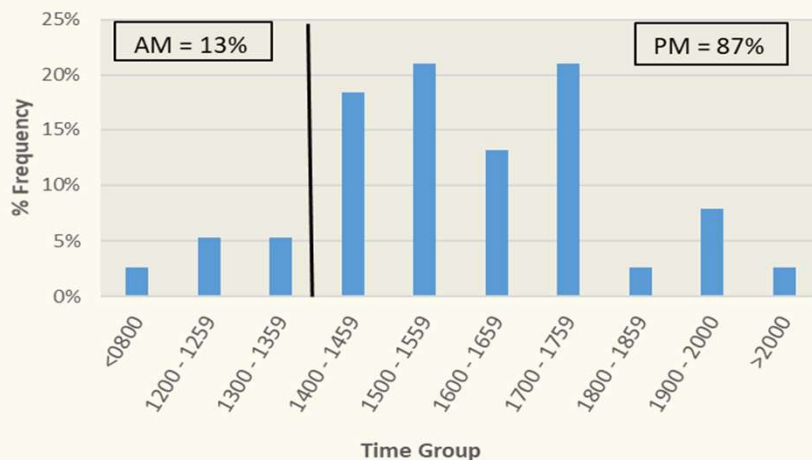
2019 Dockside Survey Interview Times
(Charter Mode - Offshore)



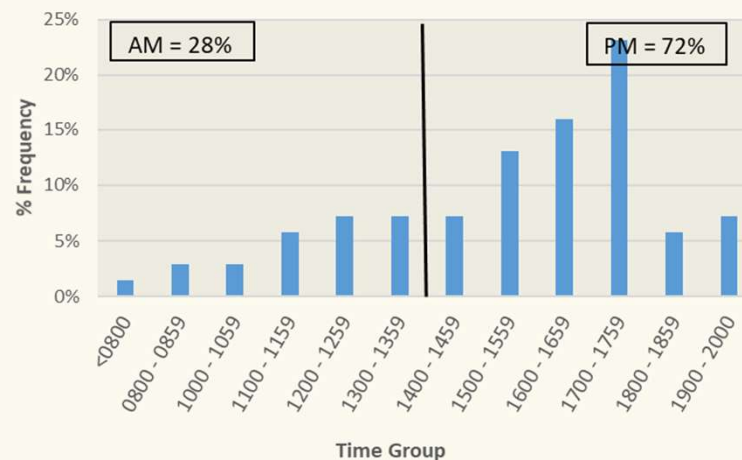
2021 Dockside Survey Interview Times
(Charter Mode - Offshore)



2019 Effort Survey Reported Landing Times
(Charter Mode - Offshore)



2021 Effort Survey Reported Landing Times
(Charter Mode - Offshore)



Response to reviewers' recommendations

- Primarily covered in response document provided in NOAA materials, supplemented here. Additional information may be developed, if needed.



Follow-up to reviewers' recommendations

- Additional information on sample size issues in Midway (2021) report, which will be provided.
- No additional supplemental projects are currently planned.



Changes to design after Certification

- None



Changes to survey operations after Certification

- Upweighted part of Barataria Basin, where the primary offshore effort occurs, to obtain more interviews with offshore participants. Weights carried through estimation process.
- Implemented 25/75% distribution am/pm for sites with offshore weights to reflect the distribution of effort from those locations.



Additional studies of non-sampling error

- None



Questions?

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